

## REMARKS

The Office Action dated May 13, 2004 has been received and carefully considered. In this response, claims 1, 19, 20, 24, 29-31, 37 and 38 have been amended. The amendments to claims 19, 20, 24, 29-31, 37 and 38 are made for grammatical purposes and the amendments to claim 1 are made to clarify the subject matter claimed as well as for grammatical purposes. Support for the amendments to the claims may be found in the specification and drawings as originally filed and no new matter is introduced by these amendments. Reconsideration of the outstanding rejections in the present application therefore is respectfully requested based on the following remarks.

**Interview on August 12, 2004**

At the outset, the undersigned notes with appreciation the courtesies extended by Examiner Nguyen and Examiner Bella during the telephone interview ("the Interview") conducted on August 12, 2004.

**Anticipation Rejection of Claims 1, 5-9, 21, 24-30 and 32**

At page 2 of the Office Action, claims 1, 5-9, 21, 24-30 and 32 were rejected under 35 U.S.C. § 102(a) as being anticipated by Kilgariff (U.S. Patent No. 5,999,183). This rejection is respectfully traversed with amendment.

Claim 1, from which claims 2-23 depend, has been amended to improve its clarity. Claim 1 presently recites, in part, the limitations of receiving *configuration data that indicates, for each client of a plurality of clients, which memory controller of a plurality of memory controllers will support the client, receiving, at a router, one or more data access requests from one or more of the plurality of clients and routing each of the one or more data access requests from the router to a corresponding memory controller of the plurality of memory controllers based on the configuration data*. With respect to these limitations, the Examiner asserts that Kilgariff discloses a request that "includes a memory address, a request code to indicate the type of request such as a read, write or acknowledge, and source information which indicates the graphics module and requesting agent issuing the request (configuration data)." Office Action,

pp. 2-3. As noted above, the “configuration data” of claim 1 indicates, for each client, which memory controller will support the client. As discussed during the Interview, the memory address, request code and source information included in a request as disclosed by Kilgariff does not constitute “configuration data” as is understood from the disclosure of the present application and the context of claim 1. Accordingly, it is respectfully submitted that the Office Action fails to establish that Kilgariff discloses or suggests the limitations of receiving configuration data that indicates, for each client, which controller will support the client as recited in claim 1.

Consequently, by failing to establish that Kilgariff discloses configuration data as recited in claim 1, the Office Action consequently fails to establish that Kilgariff discloses or suggests the limitations of routing a data access request based on such configuration data as also recited in claim 1.

Claim 1 also presently recites the limitations wherein a data access request is *received at a router from a client* and wherein the data request is routed *from the router to a corresponding memory controller*. As noted during the Interview, Kilgariff fails to disclose that the destination ID (which was previously alleged as analogous to configuration data) is used to route *a data request from a client to a memory controller via a router* as recited by claim 1. *See, e.g.,* Kilgariff, col. 6, lines 38-48.

Accordingly, it is respectfully submitted that the Office Action fails to establish that Kilgariff discloses or suggests each and every limitation of claim 1, as well as each and every limitation of claims 5-9 and 21 at least by virtue of their dependency from claim 1. Moreover, these claims recite additional limitations neither disclosed nor suggested by Kilgariff. For example, claim 9 recites the limitations of wherein the first memory controller executes a first portion of an access request and the second memory controller executes a second portion of the access request. With respect to these limitations, the Examiner asserts that “since each rendering module [of Kilgariff] receives access request [sic] depending on the local address, client ID, and request number, it is implied that each rendering module process [sic] a portion of a request.” Office Action, p. 3. The Applicants respectfully submit that it is unclear how the alleged fact that each rendering module of Kilgariff receive an access request depending on certain criteria necessarily implies the limitations of two portions of an access request being processed by different memory controllers as recited in claim 9.

Claim 24, from which claims 25-34 depend, recites, in part, the limitations of a storage module having a memory location and an output port, the memory location to store data and a router having a second input port coupled to the output port of the storage module, wherein the router is to route data at each one of a plurality of first input ports to a respective output port of a first or second plurality of output ports based upon the data stored in the storage module. The Examiner asserts that figures 2, 3, 5 and 6 of Kilgariff and the passages at col. 5, lines 1-3 and 25-36 and col. 4, lines 65-67 of Kilgariff disclose at least these features. The Applicants respectfully submit, however, that none of the cited portions of Kilgariff disclose or suggest that the routing device 510 (which the Examiner appears to consider analogous to the router of claim 24) has an input connected to an output of a storage module as recited in claim 24, nor do any of these cited portions of Kilgariff disclose or suggest that the router routes data from an input port to a respective output port based on data stored in the storage module as also recited in claim 24. It therefore is respectfully submitted that the Office Action fails to establish that Kilgariff discloses or suggests the limitations of a storage module coupled to a router or the limitations of wherein the router uses data in the storage module to route data between its input ports to its output ports as recited in claim 24.

Claim 24 also recites the limitations of wherein the router is to route data at each of the plurality of first input ports (operably coupled to data access ports of a plurality of client) to a respective output port of a first or second plurality of output ports (operably coupled to input ports of a first memory controller and a second memory controller, respectively) based upon the data stored in the storage module. Thus, claim 24 recites the routing of data from a client to one of the first memory controller or the second memory controller based on the data in the storage module. As discussed during the Interview, Kilgariff fails to disclose or suggest these limitations.

In view of the foregoing, the Applicants respectfully submit that the Office Action fails to establish that Kilgariff discloses or suggests each and every limitation of claim 24, and therefore fails to establish that Kilgariff discloses each and every limitation of claims 25-30 and 32 at least by virtue of their dependency from claim 24. Moreover, these claims recite additional limitations neither disclosed nor suggested by Kilgariff.

For at least the reasons provided above, the Applicants respectfully submit that the anticipation rejection of claims 1, 5-19, 21, 24-30 and 32 is improper at this time and the withdrawal of this rejection therefore is respectfully requested.

#### **Anticipation Rejection of Claims 35-37 and 39**

At page 5 of the Office Action, claims 35-37 and 39 were rejected under 35 U.S.C. § 102(e) as being anticipated by Tsuboi (U.S. Patent No. 6,414,993). This rejection is respectfully traversed.

Claim 35, from which claims 36-41 depend, recites the limitations of a method comprising: receiving a first client request from a first video decoder; routing the first client request to a first memory controller; receiving a second client request from a second video decoder; and routing the second client request to a second memory controller. With respect to these limitations, the Examiner asserts that “the MPEG video decoders 26/27/28 process the data streams A, B and C in parallel, and three pictures are reproduced on the display. Therefore, it is implied that that system as taught by Tsuboi having a plurality of memory controllers, each corresponds to an [sic] respective MPEG video decoder in order to access respective memories A0-A2, B0-B2, or C0-C2.” Office Action, p. 6.

The Applicants respectfully submit that the Examiner’s assertion that Tsuboi inherently teaches a plurality of memory controllers is contrary to the disclosure of Tsuboi and contrary to the knowledge of one of ordinary skill in the art. As Tsuboi discloses, “[t]he frame memories A0-A2, B0-B2 and C0-C2 *as a whole constitute a memory 2*, and the memory 2 is connected to a display 3.” Tsuboi, col. 4, lines 14-16 (emphasis added). Thus, frame memories A0-A2, B0-B2 and C0-C2 of Tsuboi are simply parts of a single memory. One of ordinary skill in the art would appreciate that only a single memory controller conventionally is used to control access to a single memory so as to avoid the problems that typically would arise from multiple memory controllers being able to access a single memory simultaneously. The cited passages of Tsuboi provide no suggestion that anything other than the conventional memory access scheme (i.e., one memory controller for one memory) is necessary or desirable. Nor do the cited passages of Tsuboi disclose or suggest that the video decoders 26/27/28 include or operate as memory controllers as taught by the present application or as understood by the ordinary meaning of the

term “memory controller.” Thus, the Applicants respectfully submit that Tsuboi provides no support for the conclusion that multiple memory controllers in the system of Tsuboi are inherent or implied. Accordingly, it is respectfully submitted that the Office Action fails to establish that Tsuboi discloses or suggest at least the limitations of a first memory controller and a second memory controller as recited by claim 35, and therefore fails to establish that Tsuboi discloses each and every limitation of claim 35. Consequently, the Office Action fails to establish that Tsuboi discloses each and every limitation of claims 36-37 and 39 at least by virtue of their dependency from claim 35. Moreover, these claims recite additional limitations neither disclosed nor suggested by the Tsuboi.

For at least the reasons provided above, the Applicants respectfully submit that the obviousness rejection of claims 35-37 and 39 is improper at this time and the withdrawal of this rejection therefore is respectfully requested.

#### **Obviousness Rejection of Claims 2-4, 20, 22, 31, 33 and 34**

At page 6 of the Office Action, claims 2-4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kilgariff. At page 7 of the Office Action, claims 20, 23, 31 and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kilgariff in view of Ogata (U.S. Patent No. 4,829,467). At page 8 of the Office Action, claims 22 and 33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kilgariff in view of Foster (U.S. Patent No. 6,240,492). These rejections are respectfully traversed.

As noted above, the Office Action fails to establish that Kilgariff discloses or suggests each and every limitation of claim 1, from which claims 2-4 and 20, and of claim 24, from which claims 31 and 34 depend. The Office Action also fails to establish that Ogata and Foster, alone or in combination with Kilgariff, disclose the limitations of claims 1 and 24. Accordingly, it is respectfully submitted that the Office Action fails to establish that the proposed combinations of Kilgariff, Foster and Ogata discloses or suggests each and every limitation of claims 2-4, 20, 31 and 34 at least by virtue of their dependency from one of claims 1 or 24.

Moreover, claims 2-4, 20, 22, 31, 33 and 34 recite additional limitations neither disclosed nor suggested by the proposed combinations of Kilgariff, Foster and Ogata. For example, claims

20 and 31 recite limitations wherein a number of requests routed to a memory controller from a particular client is dependent on a data rate of the particular client. With respect to these limitations, the Examiner asserts that Ogata “teaches a memory controller 6 (Fig. 1) is constructed to access the data at two different speeds.” Office Action, p. 7 (citing Ogata, col. 5, lines 18-22). However, the full passage of Ogata states that “[t]he memory controller is constructed to access the data at two different speeds, *because the data rate from the run length codec unit 5 is very high while the access speed by the CPU 4-1 is not so high.*” Ogata, col. 5, lines 18-22 (emphasis added). Not only does this passage fail to disclose or mention a router, nothing in this passage suggests that the number of access requests routed by such a router from a particular client are dependent on the data rate of the client as recited by claims 20 and 31.

Accordingly, the Applicants respectfully submit that the obviousness rejections of claims 2-4, 20, 22, 31, 33 and 34 are improper at this time and the withdrawal of these rejections therefore is respectfully requested.

#### **Obviousness Rejection of Claims 38, 40 and 41**

At page 8 of the Office Action, claims 38 and 41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsuboi in view of Ogata. At page 9 of the Office Action, claim 40 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsuboi in view of Foster. These rejections are respectfully traversed.

As noted above, the Office Action fails to establish that Tsuboi discloses each and every limitation of claim 35, from which claims 38, 40 and 41 depend. It is respectfully submitted that the Office Action fails to establish that the Ogata or Foster disclose or even suggest, alone in combination with Tsuboi, each and every limitation of claim 35 and therefore fails to establish that the proposed combinations of Tsuboi, Ogata and Foster disclose each and every limitation of claims 38, 40 and 41 at least by virtue of their dependency from claim 35. Moreover, these claims recite additional limitations neither disclosed nor suggested by the cited references.

Accordingly, the Applicants respectfully submit that the obviousness rejections of claims 38, 40 and 41 are improper at this time and the withdrawal of these rejections therefore is respectfully requested.


**Conclusion**

It is respectfully submitted that the present application is in condition for allowance and an early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed telephone number in order to expedite resolution of any issues and to expedite passage of the present application to issue, if any comments, questions, or suggestions arise in connection with the present application.

The Applicants do not believe that any additional fees are due, but if the Commissioner believes additional fees are due, the Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-0441.

Respectfully submitted,

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